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Banking regulation and supervision in the next 10 years and their unintended consequences

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BANKING REGULATION AND SUPERVISION IN THE NEXT 10 YEARS AND THEIR UNINTENDED CONSEQUENCES

Danièle NOUY

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Abstract

In the paper, we deal with the unexpected effects of new regulations and supervision and provide recommendations to ensure their effectiveness. New regulations essentially aim at strengthening the solvency and the liquidity of financial institutions. However, some technical aspects of these regulations, particularly regarding the effect on deleveraging, the use of a non-risk weighted leverage ratio and regulatory arbitrage require continuous monitoring. In addition, banking supervision is evolving toward more intrusive approach, more stress test exercises and an increasing role of macro prudential supervision. These changes in supervisory approach also require an efficient management of communication in order to avoid market overreaction and banks' ex ante inefficient behaviour. Supervisors have to anticipate and manage these unintended effects. The European Banking Union will help address these challenges by setting a single supervisory mechanism, a single resolution mechanism and a single deposit insurance scheme.

Key words: *Basel III, CRD IV, regulatory arbitrage, stress test, macro prudential supervision, Banking Union.*
JEL Classification: *G21, G23, G28*

La réglementation et la supervision bancaire dans les 10 prochaines années et leurs effets inattendus

Résumé

L'article étudie les effets inattendus des évolutions en termes de réglementation prudentielle et de supervision bancaire et fait des recommandations pour assurer leur efficacité. Les nouvelles règles visent essentiellement à renforcer la solvabilité et la liquidité des institutions financières. Cependant, certains aspects techniques, en particulier ceux liés aux effets en matière de deleveraging, à l'utilisation d'un ratio de levier sans pondération des risques, ou d'arbitrage réglementaire nécessitent d'être surveillés. La supervision bancaire évolue quant à elle vers une approche plus intrusive, une plus grande importance accordée aux exercices de stress tests et un renforcement du rôle de la supervision macro prudentielle. Cette nouvelle approche exige une bonne gestion de la communication pour éviter une sur-réaction des banques et des marchés financiers. Les superviseurs doivent par conséquent anticiper et gérer ces effets inattendus. L'Union Bancaire Européenne, à travers la mise en place d'un mécanisme de supervision unifiée, d'un schéma commun de résolution des crises et d'un dispositif européen de garantie des dépôts, contribuera à relever ces défis.

Mots clés : *Bâle III, CRD IV, arbitrage règlementaire, stress test, supervision macro prudentielle, Union Bancaire.*
Classification JEL : *G21, G23, G28*

Banking regulation and supervision in the next 10 years and their unintended consequences[1]

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Politicians, policymakers and supervisors have responded to the current crisis by introducing tighter legislation and regulations. The new rules will shape the future banking system. However, the new rules and laws will also be evaded. Indeed the creativity, that financial institutions demonstrate in such circumstances, can even increase the risks that the new rules were designed to manage. Should we therefore be seeking solutions to crises in the form of new legislation and regulations? What are the limitations and unintended consequences of such an approach? And what can supervisors themselves do to ensure that these 'unintended consequences' are recognised and managed? In addition, from a European perspective, what will be the impact of the Banking Union in this process?

1. Introduction

The crisis has amply demonstrated the limitations of self-regulation and market discipline. Besides the strengthening of the resilience of financial institutions, the new regulations also call for an intensification of supervision. Supervisors are to be entrusted with new powers, as was the *Autorité de Contrôle Prudentiel* at its birth. This comes with stronger responsibilities. Yet, after the irrational exuberance that intoxicated economic agents before the financial crisis, has the pendulum not swung too far in the opposite direction leading to an excessive reliance on supervisors?

The new regulations address major weaknesses that the crisis has revealed through stronger solvency ratios, capital of a better quality, and risks better accounted for. The French supervisor strongly supports these invaluable improvements that will result in much more robust financial institutions and a more resilient financial system. Nevertheless, supervisors have to anticipate changes in the environment as a response and to manage unintended consequences which may emerge from these new regulations. This is notably the case for the liquidity coverage ratio and the leverage ratio for which some technical aspects require caution and some further improvements.

Besides new regulations, the banking supervision is also evolving toward more stress test practices, macro prudential supervision. The supervisor is also adopting a more intrusive approach. The French supervisory authority is used to rely on intrusive off-site and on-site supervision to get an in-depth as well as updated understanding of risks incurred by banks and to monitor any undesired evolution before they spiral out of control. The crisis confirmed that this supervisory approach was well-founded. But it has also dramatically increased the issues at stake and has been extremely demanding on supervisors, in terms of speed of reaction, resources and ability to deal with increased complexity.

In the remainder of the paper, section 2 discusses the possible unintended consequences of the new regulation framework introduced in response to the financial crisis and suggests ways to address them. Section 3 presents the challenges associated with the new forms of supervision and the future European Banking Union which would increase the effectiveness of the banking supervision in the European Union, involving a more strengthened financial system. Section 4 concludes.

[1] By Danièle Nouy, Secretary General of the ACP, the French Prudential Supervisory Authority.
Contributions by Boubacar Camara, Jean-Baptiste Haquin, Laurent Mercier, Emmanuel Point and Martin Rose from ACP are gratefully acknowledged.

2. Unintended consequences of new regulations

Basel III was introduced to strengthen the banking system by notably increasing solvency and liquidity requirement. However, these new regulations have to be closely monitored to avoid the unintended consequences which may emerge from their implementation. In fact, more capital requirements may lead to an uncontrolled process of deleveraging which may threaten the lending activity. They can also introduce regulatory arbitrage leading to less regulatory effectiveness. The contraction of the phase in period due to the pressure exerted by the financial crisis and market expectations on banks to comply with the new regulations in a much shorter timeframe may also have several unintended and adverse consequences. We first present the possible unintended consequences of regulations regarding deleveraging. We then analyse concerns associated with the implementation of the Basel III regulation. We finally deal with the question of the development of the shadow banking sector.

2.1. Recapitalization, deleveraging and lending activity

One of the main reasons why the economic and financial crisis became so severe was that the banking sectors in many countries had built up excessive on and off-balance sheet leverage. This was accompanied by a loss of confidence by market participants in the level and quality of the capital base. To address these failures, the BCBS introduced a number of fundamental reforms to the international regulatory framework,[2] including raising the quality, consistency and transparency of capital, while enhancing the coverage of risks.

Deleveraging is part of a necessary adjustment in response to the crisis to restructure banks' balance sheets and restore the conditions of a sound banking sector. In the wake of the crisis, market participants have been exerting a strong pressure on banks to deleverage and to target higher capital ratios.

While supervisory authorities have to ensure that this deleveraging process is effectively implemented, an obvious unintended consequence that they have to prevent relates to the possible procyclicality of the process from a system-wide perspective. Excessive deleveraging that would disrupt lending to the real economy and further amplify the crisis must be avoided.

The evolution of cross-border exposures has been an area of concern for European supervisory authorities. Chief among them has been the risk of a decrease in lending from foreign banks to Southern Europe and emerging market economies.[3] Lending cuts by European banks also focused on dollar-denominated loans. European banks, especially French groups, reduced their exposures to US dollar activities in project finance or the financing of trade, aircraft and ships. This did not appear to weigh too heavily on these types of credit, because other lenders abroad took over. However, this may call for supervisory attention because of potential unintended consequences. As a matter of fact, according to article 481 of the CRR under consideration, the European Banking Authority (EBA) will report to the European Commission whether the specifications of the new regulations are likely to have a material detrimental impact on the business and risk profile of credit institutions or on lending to the real economy, with a particular focus on lending to SMEs and on trade financing.

In a market environment, with pressures on banks, deleveraging could lead to forced sales, contraction of credit and weaker economic activity. Against this background the 2011 EU capital exercise demanded especially careful and tactful handling. Recommendations[4] for major European banks to raise their Core Tier 1 capital ratios to 9% by mid-2012 had the potential to increase these fears and had to be closely supervised *ex ante* to prevent unintended behavioural responses by individual banks. The recapitalization plan evaluated to EUR 114.7 bn. the capital needs after including sovereign capital buffer. The EBA stated that these buffers were explicitly not designed to cover losses in sovereigns but

[2] See BCBS : Basel III: A global regulatory framework for more resilient banks and banking systems, December 2010.

[3] See BIS quarterly review, March and June 2012.

[4] On December 8th 2011, the European Banking Authority (EBA) published a recommendation stating that national supervisory authorities should require the banks in the sample to strengthen their capital positions by building up an exceptional and temporary capital buffer against sovereign debt exposures to reflect market prices as of end of September. In addition, banks were required to establish an exceptional and temporary buffer such that the Core Tier 1 capital ratio reaches a level of 9% by the end of June 2012.

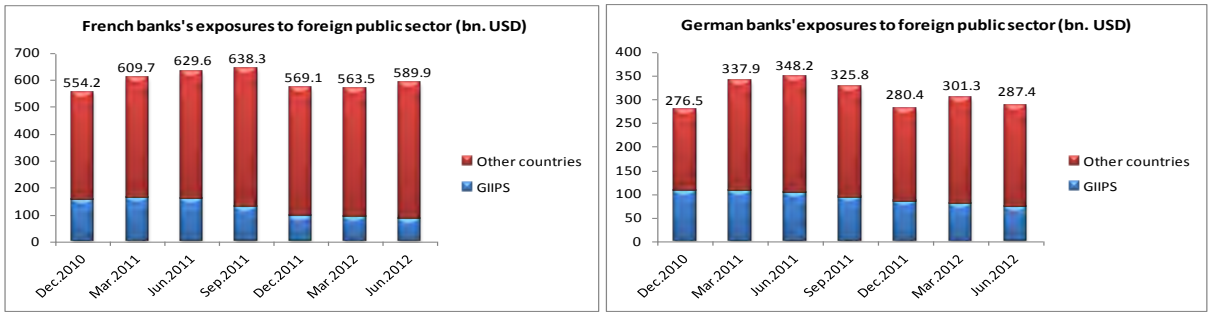
to provide a reassurance to markets about the banks' ability to withstand a range of shocks and still maintain adequate capital. The amount of any capital shortfall identified was based on September 2011 figures. However, it was decided that the amount of the sovereign capital buffer would not be revised so that sales of sovereign bonds would not alleviate the buffer requirement to be achieved by June 2012; the sales of selected assets could be accepted provided that they did not lead to a reduced flow of lending to the real economy, in particular in the EU. It was clearly stated that banks should first use private sources of funding to strengthen their capital position to meet the required target, including retained earnings, reduced bonus payments, new issuances of common equity and suitably strong contingent capital as well as other liability management measures.

So far, this recapitalization plan has not lead to a significant reduction in lending into the European real economy according to the EBA. The deleveraging process which started before this capital exercise has been implemented in an orderly fashion. French and German banks decreased their exposure to Greece, Ireland, Italy, Portugal and Spain (GIIPS) but stabilized their total exposures to the foreign public sector between Dec. 2010 and June 2012 (See figure 1).

Besides other European supervisors, the French authorities have been closely monitoring this risk. The attention has been mainly focusing on small and medium-sized enterprises (SMEs) and local public authorities. In Europe, SMEs, contrary to large companies, have a more limited access to alternative funding sources in case of a banking credit squeeze. Local public authorities face growing financing needs in a context of increased decentralisation in France and seem to experience funding strains as a consequence of the restructuring of the banking market.

In the French domestic markets, despite the tighter standards used by banks when granting credit, since 2008, French SMEs do not appear to have been strongly affected by credit rationing.[5] Indeed, French banks have been focusing their business models on core activities, i.e. retail and corporate banking. They have reduced their market operations and are disposing of legacy assets. This is an intended consequence of the new framework.

Figure 1: French and German banks' exposures to foreign public sector



Source: Bank for International Settlement and author's calculations.

2.2. Concerns associated with the implementation of Basel III regulation

Basel III capital and liquidity requirements constitute major improvement in banking regulation. However, these new rules could have unintended consequences, especially on banks' business model and the development of the shadow banking sector, which have to be addressed.

[5] See Kremp and Sevestre (2011).

2.2.1. Liquidity and long term funding needs

In December 2010, the BCBS published the Basel III International framework for liquidity risk measurement, standards and monitoring. It came as a reaction to the major vulnerabilities that were revealed during the financial crisis that began in 2007, when many banks experienced difficulties because they had not managed their liquidity in a prudent manner. The BCBS developed two minimum standards for funding liquidity. The first requirement on the Liquidity Coverage Ratio (LCR) aims to ensure that banks maintain an adequate level of unencumbered, high-quality liquid assets that can be converted into cash to meet their liquidity needs for a 30 calendar day time horizon under a significantly severe liquidity stress scenario specified by supervisors. The Net Stable Funding Ratio (NSFR), with a one-year time horizon, was developed to provide a sustainable maturity structure of assets and liabilities.

An internationally harmonised liquidity ratio will be a major improvement. However, this new regulation has system-wide implications that are difficult to fully identify and anticipate. Assessing the impacts of the LCR calibration and monitoring the adjustments of financial institutions during the transition period are key areas for attention for regulatory and supervisory authorities. Implications of the standard for financial markets, credit extension and economic growth have to be closely monitored so as to address unintended consequences as necessary.

According to the results of the Basel III monitoring exercise of the BCBS as of 31 December 2011,[6] the aggregate LCR shortfall was € 1.8 trillion in the sample of 209 banks in the liquidity monitoring exercise. For the European banks in the sample, the shortfall was € 1.17 trillion.[7] This is a source of supervisory concern since many banks simultaneously have to change in depth their funding structure which could, if unchecked, increase systemic risk. Competition among banks to secure long-term funding may come on top of the competition from other economic agents (sovereigns, public administrations and private corporations) experiencing strong refinancing needs and who might also find it more difficult to borrow long-term funds from banks. The ability of the long-term debt market to increase correspondingly remains an open issue, especially in the market conditions that have been prevailing since the beginning of the financial crisis. The rise in sovereign risk in Europe has adversely affected banks' funding conditions delaying their adaptation to the future regulatory framework.[8] Regulatory proposals in relation to the bail-in of unsecured debt have also been weighing on the unsecured funding markets.

Supervisors have an important role to play to prevent unintended consequences stemming from the calibration of new regulations. In this regard, it would be hard to disentangle the responsibility of the supervisor from that of the regulator. An example can illustrate some of the concerns of supervisors in the development process of the LCR regulation. Regarding the Definition of High Quality Liquid Assets (HQLA), too narrow a definition of HQLA would have several drawbacks, mainly cliff effects and concentration risk. Any event that would cause previously eligible assets to become ineligible would have market-wide consequences for both debt issuers and banks, particularly those which had relied on the excluded assets and would have to adjust their balance sheet to comply with the LCR. For these reasons, the strong demand for HQLA assets would drive up their prices leading to market distortions. A definition of HQLA, if it were excessively narrowed to sovereign bonds, would give banks a strong incentive to increase their sovereign risk exposures despite the experience of the negative consequences of market concerns about the sovereign risk exposures of banks, and despite the fact that it is not obvious that government bonds are always more liquid than other securities. An unfavourable treatment of certain types of privately issued collateral would weaken incentives for the financial industry to improve the market liquidity of these assets. Furthermore, for those central banks which rely on a larger set of eligible collateral for their refinancing operations, too narrow a definition of HQLA would raise the incentives for banks to pledge their less liquid assets at the central bank, thereby inducing a detrimental regulatory arbitrage.

[6] BCBS report – August 2012: Results of the Basel III monitoring exercise as of 31 December 2011.

[7] EBA report – September 2012: Results of the Basel III monitoring exercise as of 31 December 2011.

[8] CGFS Papers n°43 – July 2011- The Impact of sovereign credit risk on bank funding conditions.

The LCR aims at being applied internationally and has to encompass very different banking activities, legal and structural frameworks. The impacts of this new regulation on the national banking systems differ. In its supervisory work, the ACP has to deal with intended and unintended consequences of the future regulation on French banks. Although a regulatory liquidity ratio -sharing many traits with the LCR- has been in force in France since 1988,[9] French banking groups are strongly impacted by the new regulation and lagged behind some of their peers. There are several reasons for that.

First, the major French banking groups have historically developed according to the model of universal banking,[10] with significant business lines in asset management and insurance. This model showed its resilience during the crisis. Diversification of sources of income and risks proved to be strength. But, this model has also some drawbacks, one of them being that a significant portion of savings was not intermediated through the balance sheets of French banks, [11] but was directed towards off-balance-sheet products: mutual funds and life insurance. In turn, these vehicles were investing part of their funds in bank debts.

Second, regulated tax-exempt savings accounts (*Livret A*, *Livret de Développement Durable* and *Livret d'Epargne Populaire*) are another feature of the French financial system. For households, they combine several advantages. They are notably highly liquid and represent an important asset class, therefore influencing the market of short-term as well as long-term savings products. The funds are collected by banking networks but a major part is then centralised at the *Caisse des Dépôts* in order to finance a substantial portion of the construction and renovation of social housing through long-term loans granted at attractive rates. At the end of 2011, outstanding regulated savings totaled € 337 bn.[12] (of which tax-exempt *Livrets A* amounted to € 215 bn.). More structural shifts in the allocation of household savings are therefore dependent on tax incentives benefiting regulated savings products and long-term savings instruments, notably life insurance.

Third, unlike their US peers, French banks cannot rely on government-sponsored entities (GSEs) and keep large amounts of originated housing loans[13] on their balance sheet. This is a good illustration of the impact of international structural differences on the funding structure of banks.

French banks are reacting to the new regulatory framework by actively seeking retail deposits, which is obviously a long-term effort but could possibly trigger a deposit war. The ACP and the Banque de France have been closely monitoring the market and have issued preventive warnings in order for deposits gathering to be achieved at a reasonable cost. This has been the case so far.

The LCR must be implemented rigorously and consistently across jurisdictions to achieve a level playing field.[14] The BCBS proposed that the LCR be introduced on 1 January 2015. The European Union intends to include liquidity requirements in the regulation implementing Basel III. However, there are major uncertainties regarding whether this regulation will be effectively implemented on the same scope and in a similar timeframe in other areas, possibly leading to an uneven playing field. The level of application of the European capital requirement regulation and capital requirement directive (CRR-CRD IV) is very stringent because it covers credit institutions and investment firms, while Basel III applies, as a minimum, to internationally active banks.

[9] The French regulation relating to liquidity was reviewed in 2009, introducing a standard and an advanced approach for liquidity risk.

[10] The second banking coordination directive of 1999 made universal banking the norm in the European Union by introducing a single banking license valid throughout the European Union, and limiting product-mix restrictions to those imposed by home regulators (See A. Morrison: Universal Banking - The Oxford Handbook of Banking (2010)).

[11] French banks were previously banned from paying interests on sight deposits.

[12] See Rapport annuel de l'observatoire de l'épargne réglementée 2011.

[13] French housing loans are a low-risk asset class (See Enquête annuelle sur le financement de l'habitat en 2011, ACP, *Analyses et synthèse* – July 2012).

[14] For a progress report, see BCBS (June 2012): Report to G20 leaders on Basel III implementation.

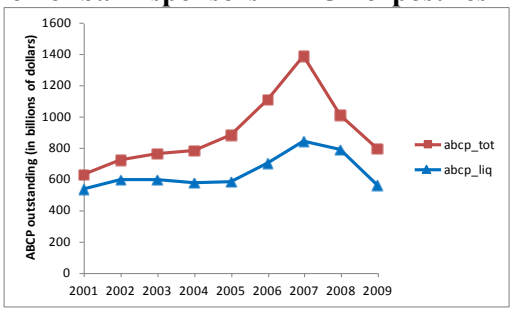
2.2.2. Leverage ratio requirement and regulatory arbitrage

Another important concern about new regulations is the possibility for banks to evade them by shifting their business to less regulated markets. Shortcomings in the solvency regulation have been pointed out, among several other important factors,[15] as playing a major role in allowing banks to take advantage of regulatory arbitrage opportunities on a large scale. It has been generally claimed that banks had developed securitisation activities without increasing their regulatory capital accordingly (Acharya and Schnabl, 2012). For the period between 2002 and 2005, Mian and Sufi (2009) find that the expansion in mortgage credit in U.S. geographical areas characterised by a disproportionately large share of subprime borrowers – despite a sharp decrease in income growth – and the increase in securitisation of subprime mortgage was closely correlated. This was all the more worrisome, given the poor quality of the assets involved in securitisation and the substantial degree of risks that turned out to remain in banks' balance sheets through credit lines either explicitly or implicitly due to reputational factors.

Regulatory arbitrage has always been a major concern for regulatory authorities. For example, in a theoretical setting, if a bank exhibits low risk aversion, its reaction to the introduction of a minimum capital to asset ratio might be a larger shift towards riskier assets to offset the decrease of its return (Kim and Santomero, 1980). To avoid this unintended effect, regulators have to set a capital requirement taking account of the quality of bank assets and the off-balance sheet risk exposures. This risk-based capital ratio requires to optimally weight bank assets and off-balance-sheet exposures to avoid possibilities of regulatory arbitrage. However, in the recent past, the low weighting assigned to some bank activities under Basel II, such as securitisation, introduced regulatory arbitrage opportunities. The banking sector of many countries built up excessive on- and off-balance sheet leverage contributing to the worsening of the financial and economic crisis which started in 2007.

There is a broad agreement that among securitisation activities, asset-backed commercial paper (ABCP) significantly contributed to the breakout of the financial crisis, especially in the US. Banks engaging in ABCP transactions sold securitised assets to conduits which financed their investment by issuing commercial paper. Banks also played the role of sponsor by providing guarantees to outside investors. By selling part of their assets to conduits and providing liquidity guarantees, commercial banks reduced their capital requirement without transferring risk to outside investors (Acharya and Schnabl 2012). Figure 2 shows that ABCP outstanding highly increased between 2001 and 2007. During this period, bank sponsors' total exposures to ABCP rose by 121%. After 2007, sponsors significantly decreased their ABCP exposures.

Figure 2 - Evolution of bank sponsors' ABCP exposures from 2001 to 2009



Source: Acharya and Schnabl (2012) and author's calculations. Note : Data are from Moody's and used in Acharya and Schnabl (2012). abcp_tot and abcp_liq respectively represent the total amount of sponsor's exposures to ABCP and the amount of ABCP for which sponsors provided a liquidity guarantee.

An answer to the insufficiencies of Basel II risk-based capital requirement has been the proposal to introduce a leverage requirement at the international level. This raises the question of whether there is a trade-off between the simplicity of the regulation and the comprehensiveness of risk assessment.

[15] The conjunction of several factors has contributed to the emergence of the financial crisis: overreliance on external ratings, flawed rating models, insufficient investors diligence, moral hazard, inadequate accounting methods

A minimum leverage ratio is aimed at acting as a backstop to risk-based capital requirements. If risk-sensitive capital requirements rely on banks' voluntary disclosure of their risk profiles, it can be useful to introduce a leverage ratio requirement to avoid that some banks understate their risk (Blum, 2008). Moreover, leverage ratio is a simple tool which may also be used as a countercyclical instrument for macro-prudential regulation.

However, the introduction of a leverage ratio requirement may, in turn, have unintended effects on banks' soundness. There are strong reservations *vis-à-vis* such a ratio which failed to prevent the emergence of the crisis in countries where it was implemented. A leverage ratio requirement may introduce wrong incentives in terms of bank risk taking behaviour. In fact, because it does not distinguish assets according to their riskiness, it may encourage banks to hold the riskier assets on their balance sheet. A leverage ratio could also negatively impact some business models, such as banks principally exercising retail activity, or at least the segments facing the higher risk weights, hence adversely affecting credit supply. A leverage ratio requirement could also discourage banks from developing robust internal models and managing their assets in a prudent manner. Prudent banks holding in their portfolios a greater part of liquid and high-quality assets may be penalised by the introduction of such a requirement. Furthermore, the dynamic effect of the leverage ratio among the package of reforms is difficult to anticipate. The Basel Committee has been assessing these unintended effects through quantitative impact studies. The results of the Basel III implementation monitoring exercise as of 31 December 2011 notably show that 56 out of 212 banks failed to meet the 3% Basel III Tier 1 minimum leverage ratio.

Great care is absolutely necessary when introducing new requirements or tightening existing ones since they may generate regulatory arbitrage. The leverage ratio should complement other prudential tools, such as risk-based capital and liquidity requirements. It should be used as a supplemental tool for supervisors in order to implement an efficient micro and macro-prudential regulation.

2.2.3. Regulatory arbitrage, risks associated with the development of the shadow banking sector, and the scope of banking activities

Stronger regulation in a given country could not only lead to massive transfers of assets to less regulated ones via regulatory arbitrage, but also trigger a shift in favour of the shadow banking system, which may represent a systemic threat that the regulators and the supervisors need to address properly.

At the November 2010 Seoul Summit, in view of the completion of the new capital standards for banks (Basel III), the G20 leaders highlighted the need for strengthening regulation and supervision of the shadow banking sector as one of the remaining issues of financial sector regulation that warranted attention.[16] The Financial Stability Board issued recommendations as to the measures regulators should take and the way they could reincorporate the shadow business into the regulated one.[17] Risks associated with shadow banking have been intensely scrutinised in the United States[18] and in the European Union, which has shown global leadership in implementing its G20 commitments.[19] In 2011, the total assets of the shadow banking sector was slightly greater than the total assets of banks in the U.S.A., despite a decrease since 2007. It represented roughly 40% of the total assets of banks in Europe, with lower growth since 2008[20].The risk is that the importance of the shadow banking sector increases as regulatory constraints pile up. In that respect, the ACP strongly supports initiatives aiming at addressing areas for possible further regulatory recommendations.

One major concern relates to credit operations which could be increasingly undertaken by non-banks, be it unregulated entities, such as hedge funds, or entities subject to different regulatory requirements, such as insurance companies. Those entities could take advantage of their non-bank status in order to enter in

[16] See The G20 Seoul Summit Leaders' Declaration, 11-12 November 2010.

[17] Financial Supervisory Board: Strengthening the Oversight and Regulation of Shadow Banking, Progress Report to G20 Ministers and Governors, 16 April 2012.

[18] Pozsar et al. (2012).

[19] European Commission : Green Paper Shadow Banking, 19 March 2012.

[20] See Bakk-Simon et al.

credit-like operations, having the same features as bank credit –liquidity or maturity transformation– but without being regulated as such, and falling outside the scope of banking supervision. Adrian and Shin (2009) showed that in the US a sharp increase in "market based" credit (i.e. from non regulated institutions) occurred during the pre-crisis period and that it exhibited the most dramatic contraction in the current financial crisis, hence propagating the subprime crisis.

More generally, the transfer of risks out of the banking sector requires special attention. For instance, the emerging and still small market for liquidity swaps, whereby insurance companies lend liquid and high-graded securities to banks in exchange for assets with lesser liquidity or quality, has been scrutinised in Europe lately. It demonstrated that the supervisor must be reactive to emerging trends, and keep in touch with financial innovation induced by regulatory changes and which is often designed to circumvent regulation. The role of the supervisory authority on this issue is pivotal, in particular when these new categories of transactions are apt to increase interconnectedness between institutions and to foster the transfer of systemic risks outside the regulated sectors. The ACP shares the view that these operations have to be closely monitored and that strict limits have to be applied when appropriate.

In addition, the increasing interconnectedness between various institutions within the financial system, with potential consequences on regulatory imbalances, reinforces the relevance of ACP's extensive approach of supervision, which encompasses banks and insurance companies under the same authority. All institutions which play the same economic role should be ruled by similar regulations and supervised in a coordinated manner.

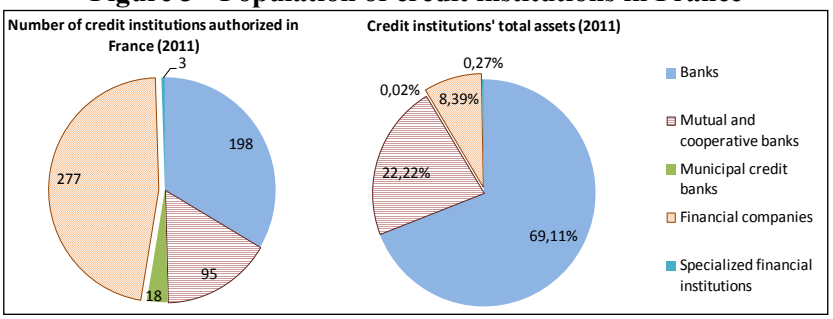
As a result, the supervisor must be careful about the side effects of any new regulation on credit institutions and foresee the implications of a regulatory regime shift. The European legislative package CRR-CRD IV –which transposes into European law the recommendations of the BCBS– show policymakers' willingness and determination to set stringent rules that will apply equally to all European countries. This unified approach across the whole banking sector, covering all credit institutions and also investment firms, contrasts with the choice that could be made elsewhere to adopt a differentiated treatment of institutions according to their size. The idea prevailing in Europe was to apply identical rules to all credit institutions, irrespective of their country of establishment, with little leeway for national regulators to set different standards, in order to preserve comparability and avoid regulatory arbitrage within the European Union. With such an approach, however, it appears that the narrow definition of credit institutions[21] in CRR-CRD IV, which would exclude all the institutions that do not collect deposits, reshapes the regulatory environment. For instance, institutions specialised in mortgages or consumer loans could fall outside the banking sector.

This might be a source for concern as notably mortgages regularly experience credit bubbles and affect conditions in the real estate market. What is more, mortgages entail clear transformation risks. Therefore, unless all institutions granting mortgages are captured under the same rules, there is a potential risk that more lending of mortgages will be done through non-credit institutions. A possible solution could be to broaden the scope of the CRR-CRD IV package to those entities providing credit to the economy. Alternatively, the definition of an *ad hoc* status would be appropriate for those institutions no longer covered by the new regulation. This issue is also of importance for these institutions which would otherwise no longer have access to central bank funding.

In France, such companies are currently standing at a crossroads: should they change their business model and start collecting deposits so as to be considered credit institutions and have access to the central bank – at the cost of implementing Basel III requirements – or not? This also applies to other categories of institutions labeled as "financial companies" (*sociétés financières*), 277 in total as of 2011, which operate in such segments as leasing, factoring, consumer credit, or equipment finance (See figure 3). In order to avoid loopholes and preserve financial stability, the French regulator is considering designing a regulatory framework that would converge towards the CRR-CRD IV requirements, so as to promote a level playing field and encourage best practices.

[21] Article 4 of CRR under consideration states that „credit institution' means an undertaking the business of which is to receive deposits or other repayable funds from the public and to grant credits for its own account.

Figure 3 - Population of credit institutions in France



Source: ACP

Regulation is now defining the scope of banking activity. Different projects have been put forward: Vickers in the UK, Volcker in the US and Liikanen in Europe. The Liikanen report proposes a mandatory separation of trading activities when the trading portfolio and assets available for sale are greater than 100 billion or when the proportion of this portfolio in the total assets exceeds a threshold included between 15 and 25%. A „trading entity' should also be created when specific assets are greater than a certain percentage (to be determined) of total assets. Assets relating to proprietary trading and market making, loans and commitments to hedge funds, and private equity investments should be transferred to the „trading entity'. However, the implementation of these reforms requires resolving issues relative to the level playing field and the regulation of the shadow banking sector. It also requires preserving the advantage of the universal bank model. In the French case, universal banks contributed to reduce financial fragility and to dampen the macroeconomic consequences of the financial crisis. This can be notably explained by the diversified business mix of the banking groups, retail banking representing the lion's share of their activities. The structural characteristics of the domestic credit market, such as fixed rates for mortgage loans, reasonable loan-to-value and debt-to-income ratios and the overall relatively risk adverse culture also explain the resilience of French universal banks.

All in all, Basel III is essential in supporting financial stability but some undesired effects can already be perceived, e.g. between banking and insurance companies: new types of transactions arising from regulation, increased competition between banks and life insurers for households' savings, higher cost of financing to the economy, etc. This shows that, facing globalised markets and interconnected financial institutions, supervisors must more than ever pay attention to the consequences of new regulation on financial stability and actively seek the suppression of any regulatory arbitrage opportunity. The question of the shadow banking regulation needs also to be addressed at the internationally level in order to resolve the issue concerning the externalization of risky activities outside of the regulated scope. European countries intend to adopt a unified approach across the whole banking sector, covering all credit institutions and also investment firms which may contrast with the choice that could be made elsewhere to adopt a differentiated treatment according to the entities size.

3. Challenges associated with the new forms of supervision

Beside new regulations and their unintended consequences, supervision is evolving in the post-crisis world. Supervisors are developing new methods and practices. In return, they raise new and higher expectations from banks and the general public. Communication by supervisors needs therefore to adapt, overcome the effects of asymmetric information and remedy the increase in risk aversion. Indeed, badly managed communication may, in certain circumstances, precisely precipitate the financial distress that supervisors try to prevent. This is particularly the case for stress tests which have experienced a significant development in the recent past. Supervisors also need to carefully monitor the consequences on banks' behaviours, hence on financial stability, from implementing a more intrusive supervision approach, and from adopting a macro prudential perspective. This implies addressing possible tradeoffs regarding the current increase in banks reporting burden, which has dramatically developed since the crisis. To address these challenges, European authorities initiated the creation of a Banking Union aiming to ensure the financial stability.

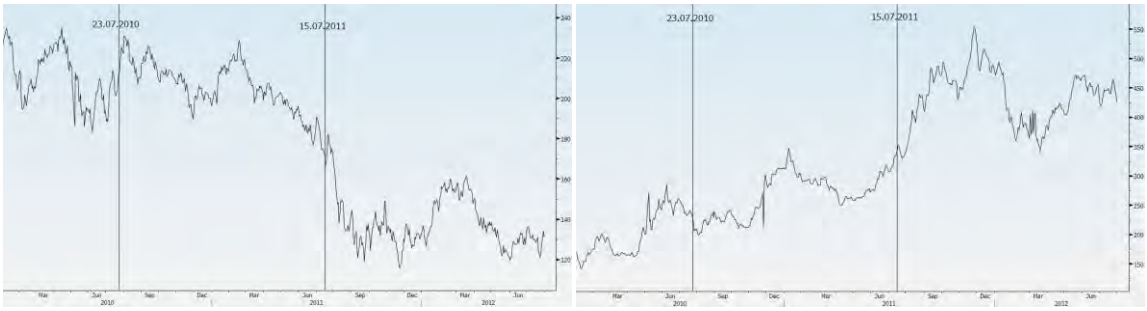
3.1. New supervision methods

3.1.1. The growing importance of stress tests

Stress tests can be used as a tool for micro- as well as macro-prudential concerns. In the micro-prudential approach, it provides information on the ability of individual banks to face potential losses. From the macro-prudential point of view, stress tests give information on the resilience of the whole banking system. However, the micro- and macro-prudential objectives of stress tests may sometimes conflict, leading to potential unintended effects of the disclosure of stress test results. In particular, the disclosure of the stress test results may sometimes adversely affect incentives and create inefficiencies at the individual bank level. There is a risk of self-fulfilling prophecies at the individual level that the supervisors have to prevent. Furthermore, a bank can make *ex ante* sub-optimal portfolios choices (e.g. large scale sovereign asset sales) to avoid a possible market overreaction. Supervisors have therefore to determine which information on individual banks is relevant to disclose in order to limit markets' overreaction.

Stress test exercises have been one response to the financial crisis. Arguably, national supervisory authorities have been carrying out stress tests for quite some time, but they were exceptionally published.[22] The situation changed in 2010. Indeed, since 2009, European authorities have conducted three coordinated stress test exercises on European banks. The Committee of European Banking Supervisor (CEBS) conducted the first exercise in 2009 without any disclosure of participant banks' results. The individual simulation results of the second European stress test were published on 23 July 2010. In 2011, the EBA and the national supervisors carried out the third stress test exercise and the simulation results were disclosed on 15 July 2011. 20 banks fell below the 5% Core Tier 1 threshold under the adverse scenario for 2012. In 2011, more comprehensive public disclosure of credit risk exposures was made mandatory. The aim was to provide relevant information to market participants to enable them to conduct their own stress test. However, disclosing stress tests results can have unintended effect on bank as well as market participants behaviour since new information can be misinterpreted: Figures 4 show a fall in the European banks' stock prices and an increase in the price of their CDS around the 15 July 2011 disclosure. Nonetheless, it is important to mention that the evolution of banks' stock market and credit default swap prices around the publication of stress test results is widely explained by the worsening of the European sovereign debt crisis.

Figure 4- Evolution of the European banks' stock and CDS prices around the European Stress Test Disclosures



Source: Bloomberg and author's calculations.

The main argument in favour of public disclosure of stress test results is that it enhances market discipline by allowing investors and counterparties to better understand the risk profiles of each institution. Market discipline based on timely and accurate information should contribute to the optimal allocation of capital and provide incentives for banks to operate efficiently and to manage and control their risk exposures prudently (Flannery and Sorescu 1996). The disclosure of the results of stress tests is intended to restore investors' confidence in the banking system and ultimately sustain activity in the real economy. During the crisis it has become a piece of information strongly awaited from the supervisors, subject to great scrutiny.

[22] The publication of bank stress tests was usually limited to IMF FSAP exercises.

However, such disclosures may have unintended consequences. They may involve inefficiencies at the individual bank level in an environment characterised by market and informational frictions. In such cases, more disclosure may reduce welfare. Indeed, if investors and other counterparties do not correctly understand a bank's operations due to previous opacity and complexity, market discipline may force this bank to make sub-optimal portfolios choices or to decide inefficient asset sales. A supervisor, disclosing detailed information on the results of the stress test, gives market participants a larger set of information on the underlying risk exposures of the banks, but this information reflects the change in bank's *ex ante* behaviour consisting in a sub-optimal portfolios choice and a window dressing behaviour (inefficient asset sales), in order to pass the test. The bank is considered healthy by the market although its actions were not efficient. As a consequence, in a second best environment with market and informational frictions, it is important to take account of possible *ex ante* inefficiencies. Furthermore, it is highly desirable that remedial measures be published at the same time as bad news (Himino, 2012).

A compromise to this inefficient *ex ante* reaction of banks may be to disclose aggregate results which may be useful for financial stability as a whole. However, this supervisory choice in terms of disclosure may in turn not be sufficient to discipline individual banks' behaviour. Supervisors may then complement these aggregated results with a detailed description of the exposures of the individual banks.

An additional and important concern about the disclosure of the results of stress tests are that the *ex post* reaction of market participants may be inefficient. The decisions of market participants are made in an incomplete informational environment. The decision of each market participant takes the expectation of others' actions into account. This may lead to overreactions. The extent of these overreactions may depend on banks' specificities. Market overreactions may particularly be severe for banks that are relatively less liquid, that exhibit significant maturity mismatches, and whose creditors are of small size, as they are less likely to take externalities into account. Moreover, greater supervisor information disclosure may reduce the incentives of market participants to find and exploit their own information (Goldstein and Sapra, 2012). Market prices may therefore become less informative. This can lead to a situation in which supervisory information disclosure involves less market discipline. Supervisors have to pay attention to externalities between market participants when disclosing stress test results.

Another dimension is the credibility of the supervisor when implementing stress tests. This requires expert knowledge of banks operations, designing the most relevant scenarios, processing optimally the information from banks using state-of-the art techniques. Credibility can only be achieved in the medium run, but appears to be crucial in crisis periods.

Overall, one may conclude that stress testing is helpful for financial stability. It can help the supervisor to identify weak institutions and to require them to take corrective actions such as raising additional capital. Solving properly these individual problems prevents contagion within the banking system and market's deficiency. An international harmonisation of stress test practices can be useful since a possible loss of credibility of one supervisor may affect the others. Methodological improvements for correctly capturing non-linearities and feed-back effects, both within the financial system and between the financial system and the macro economy, should enhance the effectiveness of stress tests.

3.1.2. A more intrusive approach to supervision

Before the financial crisis, there was a clear distinction between supervisors favouring off-site analysis and those favouring a more intrusive approach. The French approach has always been intrusive with the supplemental feature that on-site inspections are allowed to be carried out over an extended period of time when it is required by the size or the complexity of the mission. Some other supervisors have been changing their supervisory approach from the so-called „light touch' to a more intrusive approach. The supervisory model of some countries was characterised by a larger amount of data reporting. Others may rely on less intrusive controls but impose very severe sanctions when a regulated institution does not comply with regulatory requirements. Nowadays, a consensus seems to emerge on the necessity to

adopt a more intrusive approach in banking supervision. More frequent and more stringent audits should discipline banks in their risk-taking behaviour since they have more incentives for truthfully reporting their risks. On-site audits can also contribute to the production of more accurate financial reports by banks. However, the advantages of increasing on-site audits are not unlimited. The question of the efficient intensity of supervisor internal audits is of major interest.

Up to a certain threshold, increasing the number of supervisory audits contributes to strengthening the solidity of banks. However, beyond this efficient level, more on-site audits may become counterproductive. The reason is that banks may interpret this intensification of scrutiny as a signal of a higher probability of becoming subject to supervisory enforcement action. As a consequence, they may be inclined to postpone certain projects and wait for the supervisor to give her/his views. The second explanation is that the higher frequency of audits may render the market more suspicious, if it happens to notice this higher frequency. Market reactions may then exercise a negative impact on bank stock price and financing conditions. This can destabilise the institution even if it does not present major weaknesses. Delis and Staikouras (2009) provide evidence of an inverted U-shaped relationship between the frequency of on-site audits and bank soundness.

Adopting a more intrusive approach in banking supervision also raises the problem of how supervisors should allocate their limited resources when examining banks. Obviously, it must not be detrimental to the efficiency of off-site supervision.

This evolution in banking supervision requires the disclosure of a lot of information to the supervisory authorities as well as to the market. On the one hand, new reporting is indispensable when new risks emerge; on the other hand, the accumulation of requirements from different parts could provide diminishing returns in terms of true information and effectiveness of the supervisor's action. Therefore regulators and supervisors have to carefully assess the costs and benefits of new reporting and data collections, which may otherwise turn out to be counterproductive.

3.2. Integrating further micro and macro supervision

The financial crisis has highlighted the limits of relying only on micro-prudential regulation. There is now a large consensus on the need for increasing the role of macro-prudential regulation in order to manage systemic risk, which does not focus on individual failures but rather on contagion effects and correlated shocks/exposures. However, discrepancies may emerge between the objectives of micro- and macro-prudential regulation. In particular, some micro-prudential measures can lead to a reduction of lending activity and thus to a deterioration of economic conditions. The challenge is to take advantage of both micro and macro approaches.

Some micro-prudential regulation measures may amplify problems in the banking system. For example, if a bank experiences solvency problems, the micro-prudential supervisor will require this entity to restore its capital ratio. A weak bank maximising the shareholder value may choose to shrink its assets, leaving its capital unchanged. A supervisor with a narrow micro-prudential mandate would not necessarily have the ability to enforce a capital increase instead of an asset reduction (Hanson et al. 2011). However, this choice is not neutral from a macro-prudential standpoint. Indeed, if the main banks are in trouble and decide simultaneously to shrink their assets by reducing their lending activity, this behaviour may badly affect the general economic activity.

Conversely, macro-prudential concerns may introduce regulatory forbearance *vis-à-vis* important banking institutions. In fact, it may be difficult for weak institutions to increase equity. So, in order to avoid a credit crunch and fire sales, a macro-prudential supervisor could be reluctant to take prompt corrective actions against the institutions in difficulty. In the extreme case, if macro-prudential concerns may lead public authorities to bail out insolvent institutions, this can be perceived as a signal that too-big-to-fail institutions will always be supported. This situation may encourage excessive risk taking by important institutions and reduce the efficiency of market discipline. Setting clearly the conditions of public authorities' intervention may help to solve this moral hazard problem.

On top of capital surcharges on systemically important financial institutions (SIFIs) that were introduced by the Financial Stability Board in response to requests by the G20 leaders, Basel III tries to set up a macro-prudential regulation framework through the countercyclical capital buffer (CCB) that would apply to all banks covered by Basel III (or the CRD4/CRR in Europe). The implementation of a countercyclical capital buffer may introduce a substitution in loan supply between regulated institutions and local intermediaries that are not subject to domestic capital regulation. Aiyar et al. (2012) recently highlighted the existence of this substitution effect for the UK banking system. This situation may influence the effectiveness of this macro-prudential measure. International coordination of macro-prudential regulation is needed to prevent regulatory arbitrage by banks not subject to domestic bank regulation. Besides these measures, the European CRR-CRD IV allows national authorities in Europe to temporarily strengthen their regulatory requirements in order to address systemic risk.

Considering this new framework, another major concern is to set up an institutional arrangement to solve the discrepancies between the objectives of micro- and macro-prudential regulation. Indeed, except for the CCB and the SIFIs capital surcharge, the same tools (e.g. capital and liquidity requirements, risk weighted assets) will be used at the macro and the micro level. But there is a risk that a tool is used differently at both levels for different and inconsistent purposes. Thus either a single institution should be responsible for the whole supervision, or there has to be a very close coordination between the different bodies. In France, in accordance with the upcoming law introducing a structural reform of the banking sector, the Financial Stability Board (*Conseil de la Stabilité Financière*) should supersede the existing structure, the CoReFRiS[23] (which stands for *Conseil de régulation financière et du risque systémique*), with extended powers. It would gather the ministry of finance, the central bank, the bank and insurance supervisor, the financial markets supervisor and the accounting standards authority. The Board would publish notifications and recommendations deemed necessary to the preservation of financial stability; it would be in charge of setting the counter-cyclical buffer, the systemic buffer and tightening standards for credit granting.

Efforts must be pursued to adequately define and measure systemic risk. More research is needed to improve and find efficient tools which can be used at micro- and macro- prudential levels, without introducing unintended negative effects. This also includes the use of system-wide stress tests taking into account the spillover effects through bilateral financial exposures.[24] These instruments must provide the right incentives so that financial institutions internalise the externalities associated with their use. More theoretical work could be useful to efficiently use strict macro-prudential tools as complement to micro-economic instruments for macro-prudential supervision. Furthermore, macro-prudential regulation has to be coordinated at the international level to avoid regulatory arbitrage. This will preserve the level playing field.

3.3. Coordinating banking supervision across the EU: the European Banking Union

One response to these new challenges to supervision in the EU is the future European Banking Union which aims to coordinate and improve the effectiveness of the European banking supervision. The future Banking Union would lead to more effectiveness in the application of prudential regulation and supervisory intervention. This would create a more resilient banking system. It would allow direct recapitalization of banks through the European Stability Mechanism (ESM). It would also protect deposits and avoid bank runs in periods of stress and break the vicious circle between banks and sovereigns. More generally, the Banking Union would contribute to the effectiveness of the European single monetary policy. It would be based on three pillars: a single supervisory mechanism, a single resolution mechanism and a single deposit insurance scheme. For the time being EU institutions have agreed on the foundations of the first pillar, which would complement and deepen the current national

[23] One recent example of the action of the CoReFRiS had been the implementation of a specific reporting on mortgage loans to better assess risks on the real estate market.

[24] Gourieroux, Heam and Monfort (2012).

supervisory regimes for the participating member States, but the other two pillars are expected at a later stage.

Building on the model of Freixas (2003), Schoenmaker (2011) points out a „financial trilemma' leading to the impossibility to reach the three objectives of financial stability, financial integration and maintaining national financial policies in an environment with globalised financial markets. This result is explained by the fact that, in financial integration frameworks, national policies alone do not take into account the externalities associated with the decisions of the national supervisor *vis-a-vis* other supervisors. This is the case when a failing cross-border bank has to be refunded. In the absence of sufficient cooperation, supervisors of the countries which will be less affected by the failure of the bank may be reluctant to participate to the operation. In fact, at the individual level, the benefit of the intervention will be lower than the costs of the rescue for a given country. In this situation, the supervisor of the home country which is presumed to support the larger costs of the failure may be conducted to take inefficient measure consisting in imposing asset sales to the weak institution.

The creation of the Banking Union would allow to quickly and efficiently resolve problems in the banking sector, avoiding propagation to the entire euro area banking system. The risk that problems in the banking sector of a given country affect the rest of the monetary union is exacerbated by high degree of interconnectedness between the financial sectors of the different countries. In this regard, Ongena et al. (2012) notably analyse the international contagion through cross border lending, liquidity shocks and foreign ownership and find that Eastern Europe and Middle East countries were affected by a larger contraction in lending by international and foreign banks compared to local banks. With the European Banking Union, bank resolution scheme would be unified with a unique legal framework clearly specifying rules and procedures when resolution is required for a given bank. This is of large importance in the European banking sector characterised by the existence of large and complex cross border banking groups. The European Banking Union would also allow implementing a deposit insurance scheme. This would preserve the level playing-field in the Union since depositors of the different countries would be treated in the same way. However, in a context of financial instability, it could be more difficult to quickly proceed to the deposit insurance reform.

The future Banking Union should apply at least to all Euro area member states with a close cooperation with other EU countries which could "opt-in" the new system. In this future architecture of the European supervision, national supervisors would play a major role. They would prepare and implement the ECB acts under its oversight. This would consist, for example, of day-to-day assessment of a bank's situation and related on-site verifications. National authorities have crucial local expertise, daily monitoring experience, and qualified resources. They would also keep their responsibility in the area of anti-money laundering and terrorism, consumer protection and supervision of third country branches and investment firms. Moreover, the tasks and prerogatives of the European Banking Authority (EBA), notably the regulatory and coordination role, would also be maintained.

The implementation of the European Banking Union constitutes a major progress in the European Banking supervision, while at the same time preserving the single European Market for financial services. In coordination with national supervisors, it would largely contribute to the strengthening of the financial stability by breaking the close link between banks and sovereigns. Beyond this current concern, the Banking Union would globally help to ensure a healthy banking sector and improve the efficiency of monetary policy.

4. Conclusion

New regulations aim at changing behaviours from market participants. Some reactions are intended, while others are not, as supervised institutions react strategically and opportunistically. Innovation, in turn, requires new regulatory adaptations. Although this feedback process entail new risks when institutions try to circumvent regulation by developing risky and convoluted alternatives, this dialectical process of regulatory response remains the best answer to the dynamic nature of risk.

We have touched upon the important topic of the unintended consequences of supervision. The attention was first drawn to the undesirable effects that may emerge from new regulation and that have to be managed by the supervisor. The deleveraging process implemented by banks has been closely followed by European supervisors notably the ACP to avoid its negative impact on the credit supply, in particular for SMEs which cannot rely on alternative sources of funding. The implementation of the liquidity requirements also requires particular attention in order to achieve a level playing field and to prevent excess competition for long-term funding. Regulatory arbitrage which can emerge from the implementation of a leverage ratio is also a major concern. Moreover, higher regulatory requirements could lead to a transfer of certain risky assets to the less regulated shadow banking sector which may threaten the financial stability. Reflections have to be pursued to determine the best way to address this problem.

Besides changes in regulatory requirements, there is a growing demand for more supervisory action and communication. In this framework, stress tests can be helpful for financial stability. However, disclosing their results requires special care to avoid banks' *ex ante* inefficient behaviour and market's overreaction. Furthermore, integrating the objectives of micro and macroeconomic supervision has been growing in importance and will certainly remain a flourishing field for further studies. Finally, the coordination of stress test practices as well as macro-prudential supervision under the stimulating influence of peer supervisory pressure will improve supervisory practices. Besides, the future European Banking Union will significantly contribute to the financial stability.

Providing the right incentives to institutions in order to preserve financial stability is the core objective of supervision. The new regulatory landscape after the financial crisis has changed the perspectives and may introduce further unintended consequences of supervision. They create new challenges for supervision. We are confident that we will collectively be able to address them properly, in order to offer still more effective supervision.

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List of abbreviations

ACP	Autorité de Contrôle Prudentiel
BCBS	Basel Committee on Banking Supervision
CEBS	Committee of European Banking Supervisor
CEIOPS	Committee of European Insurance and Occupational Pensions Supervisors
CCB	Countercyclical Capital Buffer
CRD IV	Capital Requirement Directive
CRR	Capital Requirement Regulation
EBA	European Banking Authority
EIOPA	European Insurance and Occupational Pensions Authority
ESFS	European System of Financial Supervisors
ESRB	European Systemic Risk Board
FSAP	Financial Sector Assessment Program
HQLA	High Quality Liquid Assets
IMF	International Monetary Fund
LCR	Liquidity Coverage Ratio
LDD	Livret de Développement Durable
LEP	Livret d'Épargne Populaire
NSFR	Net Stable Funding Ratio
SIFIs	Systemically Important Financial Institutions

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2. O. de Bandt, N. Dumontaux, V. Martin et D. Médée, « Mise en œuvre de stress tests sur les crédits aux entreprises» Mars 2013

3. D. Nouy, « Les risques du Shadow banking en Europe : le point de vue du superviseur bancaire », Avril 2013.

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